INCH-POUND
MIL-PRF-1/664F
6 August 2004
SUPERSEDING
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31 March,1999

PERFORMANCE SPECIFICATION SHEET
ELECTRON TUBE, THYRATRON
TYPE 5665

This specification is approved for use by all Departments and Agencies of the Department of Defense.

The requirements for acquiring the electron tube described herein shall consist of this document and the latest issue of MIL-PRF-1.

DESCRIPTION: Triode, inert gas
See figure 1
Mounting position: Vertical, base down
Weight: 1-pound (453.6 grams) nominal

ABSOLUTE RATINGS:

Parameter:	Ef	epx	epy	Ib	ib	i surge 0.1 sec	tk	TA
Unit:	V (see note 1)	v	v	A dc	a	a ac	sec	°C
Maximum:	2.625	1,250	1,000	16	160	1,000	60	+70
Minimum:	2.375	- - -	- - -	- - -	- - -	- - -	- - -	-55
Test Conditions:	2.5	1,250	1,000	- - -	- - -	- - -	- - -	- - -

GENERAL:

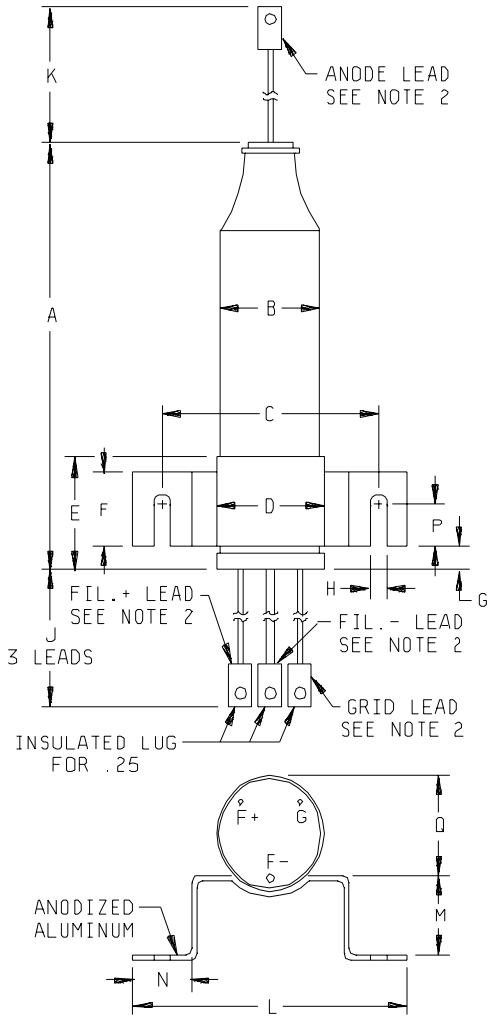
Qualification - Required

Table I. Testing and Inspection.

Inspection	Method MIL-STD-1311	Notes	Conditions	Acceptance Levels (see note 5)	Symbol	Limits Min	Limits Max	Units
Conformance inspection, part 1								
Heater current	3241	-		0.65	If	28	34	A ac
Critical grid voltage for conduction	3201	-	Ebb = 750 V dc; Rg = 10,000 ohms (max); Rp = 750 to 5,000 ohms	0.65	Ecc	-1.8	-6.2	V dc
Critical anode voltage for conduction	3201	-	Ecc = +3 V dc; Rg = 10,000 ohms (max); Rp = 750 to 5,000 ohms Ib = 16 A dc	0.65	Ebb	- - -	75	V dc
Voltage drop	3204	2	ib = 160 a; grid connected to anode	0.65	Etd	- - -	14	V dc
Peak emission by voltage drop	1231	-	thru 10,000 ohms	0.65	etd	- - -	60	v
Conformance inspection, part 2								
Shock, specified pulse	1042	4	Test condition J; no voltages	- - -	- - -	- - -	- - -	- - -
Operation	3206	-	Ib = 16 A dc; Rg = 10,000 ohms	- - -	Ecc	-1.8	-6.2	V dc
Grid current	3216	3	Rg = 1 MegΩ (min) and 10,000 ohms	- - -	Ic	- - -	10	µA dc
Conformance inspection, part 3								
Life test	- - -	-	Group D; Epp = 220 V ac; Ib = 16 A dc; ib = 160 a; t = 500 hours	- - -	- - -	- - -	- - -	- - -
Life-test end points:	- - -							
Peak emission by voltage drop	1231	-		- - -	etd	- - -	74	v
Grid current	3216	-		- - -	Ic	- - -	10	µA dc
Critical grid voltage for conduction	3201	-		- - -	Ecc	-1.8	-6.2	V dc

NOTES:

1. Filament lead marked “F-“ shall be phased negative when anode is positive.
2. This test is to be the first test performed at the conclusion of the holding period.
3. Operate tube at least 5 minutes prior to test. Operation may be at optional Epp but Ib must be 16 A dc minimum. To test, switch to test voltage Epp = 710 V ac and Ib = 16 A dc minimum in less than 2 seconds.
4. At the conclusion of this test, the TUT shall satisfy the requirements of MIL-STD-1311 method 1231 and method 3206 in conformance inspection, part 1 and part 2, respectively.
5. This specification sheet uses accept on zero defect sampling in accordance with MIL-PRF-1, table III.



Dimensions				
Ltr	Inches		Millimeter	
	Min	Max	Min	Max
Conformance inspection, part 2				
A	9.500	10.500	241.30	266.70
B	2.375	2.750	60.32	69.85
C	4.875	5.125	123.82	130.18
M	1.437	1.687	36.50	42.85
Conformance inspection, part 3 (see note 4)				
D	2.562	2.812	65.07	71.42
E	2.562	2.687	65.07	68.25
F	1.687	1.812	42.85	46.02
G	.437	.562	11.10	14.27
H	.312	.437	7.92	11.10
J	5.375	5.875	136.52	149.22
K	7.250	7.750	184.15	196.85
L	6.375	6.625	161.92	168.28
N	1.562	1.812	39.67	46.02
P	.812	.937	20.62	23.80
Q	2.187	2.437	55.55	61.90

NOTES:

1. Use of ceramic beads or fiber glass sleeves with silicone resin impregnation as lead insulators is optional.
2. Leads: Flexible; silicone-impregnated glass fiber insulation, class C-2 or better; as follows: (see notes 3 and 5)
   Anode: at top; lug for .25 inch nominal (6.4 mm) stud, lug width .41 inch nominal (10.4 mm).

   Fil. +: at base; insulated lug for .25 inch nominal (6.4 mm) stud, lug width .47 inch nominal (11.9 mm).

   Fil. - : at base; insulated lug for .25 inch nominal (6.4 mm) stud, lug width .41 inch nominal (10.4 mm).

   Grid: at base; insulated lug for .25 inch nominal (6.4 mm) stud, lug width .47 inch nominal (11.9 mm).
3. Each lead shall be clearly marked as specified herein.

FIGURE 1. Outline drawing of electron tube type 5665.

NOTES: -Continued.

4. This test shall be performed during the initial production and once each succeeding 12-calendar months in which there is production. An accept on zero defect sampling plan shall be used, with sample of three tubes with an acceptance number of zero. In the event of failure, the test will be made as a part of conformance inspection, part 2, with an acceptance level of 6.5 (see note 5 under Table I. The “12-calendar month” sampling plan shall be reinstated after three consecutive samples have been accepted.

5. Nominal dimensions are for reference purposes only, and are not for inspection.

FIGURE 1. Outline drawing of electron tube type 5665. -Continued

NOTES

Referenced documents. In addition to MIL-PRF-1, this specification sheet sheet references MIL-STD-1311.

Changes from previous issue. The margins of this specification are marked with vertical lines to indicate where changes from the previous issue were made. This was done as a convenience only and the Government assumes no liability whatsoever for any inaccuracies in these notations. Bidders and contractors are cautioned to evaluate the requirements of this document based on the entire content irrespective of the marginal notations and relationship to the previous issue.

Custodains:
Army - CR
Navy - EC
Air Force - 11
DLA - CC

Preparing activity:
DLA - CC

(Project 5960-3713)

Review activities:
Army - AR
Navy - AS, CG, MC, OS
Air Force - 99

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